

Leading zero blanking for Playmaster AM tuner

The digital frequency readout fitted to the new Playmaster wide band AM tuner has one minor disadvantage — it does not suppress the leading zero which occurs when frequencies less than 1000kHz are displayed. This simple circuit overcomes the problem using a single IC.

IC1a and IC1b are CMOS 4066 bilateral switches. IC1a acts simply as a buffer. When the Q1 output of IC8 goes high (ie, when a "1" is displayed), IC1a closes and pins 2 and 3 of the 4066 go high. When the Q1 output is low (ie, the leading digit is "0"), IC1a opens and pins 2 and 3 are pulled low by the 1k Ω resistor.

Capacitor C1 acts as a memory while the 4029 is counting. At the end of the count, the latch enable (pin 5) of IC12 goes low and pin 5 of switch IC1b goes high, thus closing S1b. Capacitor C1 will now either charge or discharge, depending on whether the Q1 output of IC8 is high or low. If the Q1 output is low, capacitor C1 discharges, thus pulling pin 4 of IC12 low to blank the leading display digit.

The 4066 can be installed by mounting it "piggyback" on the 4511 (IC12) as follows: solder pin 4 to pin 4; solder pin 14 of the 4066 to pin 16 of the 4511;

bend pin 1 up and connect it via a link to pin 14; bend pins 2 and 3 up and connect them together, with a 1k Ω resistor tying them to an earth point; connect pin 7 of the 4066 to pin 8 of the 4511; connect pin 5 to pin 13 of IC13; solder pins 6 and 12 to the pins directly below them (this simply ties the other switches in the IC package to an input); mount the diode, 10k Ω resistor and capacitor as convenient. The remaining pins on the 4066 can be cut off.

Finally, cut the track on the PCB bet-

ween pins 3 and 4 of IC12 so that pin 4 is no longer permanently tied high.

Note: Because this circuit simply detects whether the Q1 output of IC8 is high or low, it is suitable for use only in the Playmaster AM tuner and in similar applications where the leading digit is either "1" or "0". It is not suitable if the digital readout is used with a shortwave receiver, since Q1 or IC12 can go low for leading digit readings other than "0".

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